



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/589,585

09/16/2008

Werner Schubert

2360 0995 US

9931

29894

7590

06/24/2009

DREISS, FUHLENDORF, STEIMLE & BECKER
POSTFACH 10 37 62
D-70032 STUTTGART,
GERMANY

EXAMINER

SAVAGE, JASON L

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

06/24/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,585	Applicant(s) SCHUBERT ET AL.	
	Examiner JASON L. SAVAGE	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02/06/09.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20060816</u> . | 6) <input type="checkbox"/> Other: _____ |

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 12-13 and 15-22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 8-14 of copending Application No. 10/589,567. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 8 of Application 10/589,567 teaches a slide bearing comprising a metallic support layer, a sintered lead free bearing consisting essentially of 9.5 to 11% Sn, 7-13% Bi and 0-4% Zn with the balance being Cu. Application 10/589,567 further recites the powder particles are bulbous in shape without undercuts. Application 10/589,567 is silent to the length/width ratio of the bulbous particles, however as disclosed in the specification, the addition of Bi in the claimed

Art Unit: 1794

amount produces the bulbous shape having the claimed aspect ratio (p. 3, ln. 1-16). Application 10/589,567 is silent to the addition of a sliding layer of polymer basis, however it is conventional and thus would have been obvious to have applied a polymer sliding layer to the surface of the sintered carrier bearing layer. Application 10/589,567 is also silent to the pore volume of the carrier layer, however the claimed porosities are conventional to allow for impregnation of the sliding polymer layer.

Regarding claim 15, since the bismuth contributes to the grain shape and it present in the same amount as claimed, it is expected the shape parameter b would be within the range claimed.

Regarding claims 16-18, Application 10/589,567 recites the claimed elements in the same amounts in claims 9-11.

Regarding claims 19-21, Application 10/589,567 does not teach the polymer type or that the polymer sliding layer comprise additional fillers, the recited materials and addition of fillers is well known and would have been obvious.

Regarding claim 22, Application 10/589,567 recites the claimed composite being a bearing bushing in claim 14.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwa (US 6,498,127) in view of Sakai et al. (US 2003/0008169)

Niwa teaches that sliding bearings comprising a backing metal support, a porous sintered carrier layer and a sliding layer or polymer resin formed on the porous carrier layer (col. 1, ln. 8-20). Although Niwa teaches is it desirable to employ particles having a smaller average grain size, it teaches a porous carrier layer having a characteristic average grain size of 125 μm is known (col. 1, ln. 17-20).

Niwa teaches that the porous carrier layer is typically a sintered copper alloy comprising Sn, P or Pb wherein the Sn content is between 6-15% (col. 2, ln. 3-17), however it is silent to the copper alloy have the claimed composition. Sakai teaches a slide bearing comprising a metal support backing and a sintered carrier layer comprising Sn between 1.5-15% and Bi between 1.5-15% (par[0009]). Sakai teaches that since Pb adversely affects the environment that Bi is a desirable alternative (par[0005]). Sakai further discloses that the addition of Bi and a solid lubricant in place of Pb provides improved sintering and anti-seizure for the porous copper carrier.

Art Unit: 1794

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the sliding bearing of Niwa comprising a sintered copper alloy including Pb with the sintered copper alloy of Sakai comprising 1.5-15% Sn and 1.5-15% Bi in order to provide a lead free carrier layer. As such, the carrier of Niwa as modified by Sakai would overlap the claimed composition for Sn and Bi in the range claimed.

Regarding the limitation that the powder particles have a bulbous shape deviating from a regular spherical shape without edges and undercuts having the claimed length/wide aspect ratio, the prior art is silent to the claim limitations. However, as disclosed in the specification, the addition of Bi in the claimed amount produces the bulbous shape having the claimed aspect ratio (p. 3, ln. 1-16). Therefore the carrier of Niwa as modified by Sakai would meet the limitation for the particles having the claimed shape and aspect ratio.

Regarding the limitation that the carrier layer has a porosity between 28-45% and 30-40% in claim 13, although the prior art do not recite the claimed porosity range, it is known in the art to employ porosities within the claimed range to allow for suitable impregnation and adherence of the resin polymer overlay. Absent a teaching of the criticality or showing of unexpected results, the claimed porosity range would not provide a patentable distinction over the prior art.

Regarding claim 14, Niwa teaches that it is known to employ particles having a characteristic average grain size of 125 μm .

Regarding claim 15, the prior art is silent to the shape parameter. However, as set forth above and in the specification, the particle shape is recited

Art Unit: 1794

as being dependent on the Bi content being within the claimed range and the prior art teaches Bi contents which fall within the claimed range. As such, the recited shape parameter would have been met.

Regarding claims 16-18, Sakai teaches ranges for Sn and Bi which overlap the claimed ranges. Furthermore, Sakai exemplifies embodiments having Bi contents of 13 and 8% and Sn contents of 10% (Table 1). As such, it would have been obvious to provide a carrier layer having the claimed amounts of Sn and Bi since Sakai teaches the use of the recited amounts of each element is suitable.

Regarding claims 19-21, Niwa teaches that as resin polymer materials, thermoplastics such as PTFE and PEEK having additives such as graphite or molybdenum may be used (col. 1, ln. 62 – col. 2, ln. 2).

Regarding claim 22, the sliding bearing recited by Niwa as modified by Sakai would meet the limitation of being a bushing comprising the claimed bearing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON L. SAVAGE whose telephone number is (571)272-1542. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1794

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Savage/
Examiner
6-19-09

/JENNIFER MCNEIL/
Supervisory Patent Examiner, Art Unit 1794